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The points above mentioned were illustrated by diagrams and specimens, also by tables of a provisional arrangement of vertebrates according to the modifications of the brain and heart.[1]

There is much to be done before fishes' brains can be fully understood. For instance, the brain of *Myxine* has not yet been satisfactorily homologized with that of *Petromyson.*

In conclusion, Prof. Wilder exhibited a *Chimera*, recently obtained through the kindness of Mr. Alexander Agassiz, Curator of the Museum of Comparative Zoology, the brain of which, so far as he had been able to examine it, presented a remarkable combination of characters, intermediate between those of Selachians, Ganoids, and Dipnoans. A full description with figures of the brain of *Chimera*, Prof. Wilder hoped to present to the Academy on a future occasion.

On Spessartite.—Dr. George Aug. Koenig placed on record the analysis of *spessartite* from Yancey County, North Carolina. This interesting subspecies of garnet has heretofore been found at Haddam, Conn., as the only American locality. In the new locality it occurs in very large crystals, from six to eight inches long and three to four inches thick. The form is a distorted dodecahedron.

The crystals have a dark, almost black color at the surface, owing to a superficial decomposition, by which black oxide of manganese is formed. But in fragments the color is deep blood-red, turning to reddish-brown in thin plates. The latter are transparent and reveal no admixing mineral. Fracture conchoidal. Hardness nearly = 7; gravity = 4.14.

B. B. unaltered in oxidizing flame, and fuses to a black vitreous globule in point of blue flame. With borax in oxidizing flame dark blood-red bead, which turns dirty-green in reducing flame. With soda, fuses to a green glass. Hot and concentrated acids attack the powder, which is of a brownish color, but very slowly, and complete decomposition cannot be effected.

The very pure selected fragments yield by analysis—

		Oxygen.		Atoms.	
SiO_2 =	35.80	19.092	19.092	0.599	17.06
Al_2O_3 =	19.06	8.881	11.221	0.188	5.08
Fe_2O_3 =	6.25	2.340		0.035	1.00
MnO =	28.64	6.351	8.698	0.384	10.97
FeO =	9.49	2.107		0.132	3.80
MgO =	0.60	0.240		0.015	
	99.84			O = 2.432	69.7

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[1] These with figures and descriptions of the brain of *Lepidosteus* are published in the Proceedings Am. Assoc. for Adv. of Science for 1875.

The oxygen ratio is $RO : R_2O_3 : SiO_2$—
$1 : 1.28 : 2.19$

and the atomistic formula is—

$$\left.\begin{array}{l} \overset{\text{IV}}{Si}_{17} \\ \overset{\text{VI}}{Al}_5\overset{\text{VI}}{Fe} \\ \overset{\text{II}}{Mn}_{11}\overset{\text{II}}{Fe}_4 \end{array}\right\} O_{70}$$

It will be noticed that iron is contained in this garnet, both in the ferrous and in the ferric state, while in the analyses on record the iron is given as being all in the ferrous state. When those analyses were made, the method of decomposing minerals in strong sealed tubes at a high pressure was not known, and the mineral cannot be decomposed at the ordinary atmospheric pressure, as stated above. In heating the powder for thirty-six hours with acid containing 25 per cent. of sulphuric hydrate at 160° C., I succeeded in decomposing all but 7 per cent. The ferrous oxide obtained from the solution was then calculated pro rata for the undecomposed part, and the above result obtained.

To suppose that the presence of ferric iron is due to incipient alteration would not be justified, since no water was obtained by ignition, and the pellucidy of the mineral does not appear impaired. To explain the result of analysis the presence either of ferric oxide or manganic oxide must be admitted, which alternation would neither affect the oxygen ratios, nor the atomic composition.

I am indebted to Mr. Clarence Bement of this city for the material used in this investigation, and I hereby express my thanks for his kindness.

The thanks of the Academy were returned to Dr. James S. Gilliams for a portrait of the late Jacob Gilliams, one of the founders of the Academy, painted by Rothermell.

April 11.

The Rev. E. R. Beadle in the chair.

Thirty-four members present.

The following papers were presented for publication: "The Genus Pomoxys, Raf." By D. S. Jordan and H. E. Copeland. "Chemical Notes." By Geo. Hay.

Remarks on Arcella, etc.—Prof. Leidy remarked that the Rhizopods are so exceedingly polymorphous, that, to say the least of them, their specific and generic limits appear less well defined than in higher animals. In speaking of the Difflugian Rhizopods,